Antimicrobial Activity of PTK796 Tested Against Gram-positive Organisms Causing Bloodstream Infections in 2009

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ABSTRACT

Background: PTK796 (PTK; 7-dimethylamino, 9-(2,2-dimethyl-propyl)-
aminooctanamide), is a novel aminoglycoside agent of the teicoplanin family, which is under clinical development (1) and for which limited in vitro data are available. The objective of this study was to evaluate the in vitro activity of PTK796 against Gram-positive (GP) cocci collected from bloodstream infections (BSI) in hospital bloodstream during 2009.

MATERIALS AND METHODS

Methods: 362 strains from 62 medical centers (USA, Europe and Latin America) were collected and tested for susceptibility (S) against PTK, tigecycline (TIG) and 18 other comparators by CLSI/NCCLS microdilution methods. The collection included S. aureus (SA; 1,066), 37% MRSA; coagulase-negative staphylococci (CoNS; 640), E. faecalis (EF; 39% vancomycin (VAN) non-susceptible [VAN-non-S]), S. pneumoniae (SPN; 271); and vancomycin-resistant (VRE), EUCAST (2010). USA Food and Drug Administration (FDA) approved 2008. CLSI, EUCAST (2010). Validated broth microdilution methods recommended by the Clinical and Laboratory Standards Institute (CLSI, M07-A8, 2009). Validated broth microdilution methods recommended by the Clinical and Laboratory Standards Institute (CLSI, M07-A8, 2009).

RESULTS

Conclusions: PTK796 demonstrated potent activity against a large collection of recent (2009) GP isolates from bloodstream infections (BSI) and was very potent against MRSA, coagulase-negative staphylococci (CoNS; 640), E. faecalis (EF; 39% vancomycin (VAN) non-susceptible [VAN-non-S]), S. pneumoniae (SPN; 271); and vancomycin-resistant (VRE), EUCAST (2010). USA Food and Drug Administration (FDA) approved 2008. CLSI, EUCAST (2010). Validated broth microdilution methods recommended by the Clinical and Laboratory Standards Institute (CLSI, M07-A8, 2009).

REFERENCE


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REFERENCES


CONCLUSIONS

• PTK796 demonstrated potent activity against a large collection of recent (2009) GP isolates from bloodstream infections (BSI) and was very potent against MRSA, coagulase-negative staphylococci (CoNS; 640), E. faecalis (EF; 39% vancomycin (VAN) non-susceptible [VAN-non-S]), S. pneumoniae (SPN; 271); and vancomycin-resistant (VRE), EUCAST (2010). USA Food and Drug Administration (FDA) approved 2008. CLSI, EUCAST (2010). Validated broth microdilution methods recommended by the Clinical and Laboratory Standards Institute (CLSI, M07-A8, 2009).

• PTK796 activity was similar (within one doubling dilution) to that of tigecycline and was affected by resistance to other antimicrobial classes.

• These data suggest a potentially important clinical role for PTK796 in the treatment of BSI caused by Gram-positive pathogens, including multidrug-resistant strains.

• Antimicrobial activity of PTK796 and comparator antimicrobial agents when tested against bacterial isolates from bloodstream infections (BSI) in hospitals worldwide during 2009.

• Susceptibility testing was performed using a broth microdilution assay, broth microdilution methods recommended by the Clinical and Laboratory Standards Institute (CLSI, M07-A8, 2009). Validated broth microdilution methods recommended by the Clinical and Laboratory Standards Institute (CLSI, M07-A8, 2009). Validated broth microdilution methods recommended by the Clinical and Laboratory Standards Institute (CLSI, M07-A8, 2009).

• Table 1: PTK796 MIC distributions when tested against Gram-positive bloodstream infections and resistant subsets from BSI 2009.